



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,076	11/14/2003	Vikrant Kasarabada	18602-08156	2632
61520	7590	03/15/2010	EXAMINER	
APPLE/FENWICK SILICON VALLEY CENTER 801 CALIFORNIA STREET MOUNTAIN VIEW, CA 94041				CZEKAJ, DAVID J
ART UNIT		PAPER NUMBER		
2621				
			MAIL DATE	DELIVERY MODE
			03/15/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/714,076	KASARABADA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	DAVID CZEKAJ	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 18 December 2009.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,3-18,20-35 and 37-64 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,3-18,20-35 and 37-64 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

## DETAILED ACTION

### ***Response to Arguments***

Applicant's arguments with respect to the rejection(s) of the claim(s) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is as set forth below.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-, 3-18, 20-35, and 37-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naito et al. (6690732), (hereinafter referred to as "Naito") in view of Sugahara (5404174), (hereinafter referred to as "Sugahara").

Regarding claim 1, Naito discloses an apparatus that relates to scene change detection (Naito: column 1, lines 7-10). This apparatus comprises "receiving macroblocks for an uncompressed image" (Naito: figure 1) and "encoding the image without changing the frame type of the image in response to the determination of a scene change and the frame type of the image" (Naito: column 3, lines 50-59, wherein it is well known in the art that I frames (frame type) cause scene changes). However, this apparatus lacks determining the macroblock type and the distribution of blocks as claimed. Sugahara teaches that prior art processing systems cannot detect scene changes with high

accuracy (Sugahara: column 2, lines 23-28). To help alleviate this problem, Sugahara discloses "determining a block type, determining a distribution of block types, and determining whether the image represents a scene change based on the block type and frame type, wherein the scene change is determined as a function of a percentage of prediction blocks in the image" (Sugahara: column 9, line 41- column 10, line 22; column 12, lines 44-65, wherein the activity values indicate the percentages). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the apparatus disclosed by Naito and add the processing taught by Sugahara in order to obtain an apparatus that can accurately determine scene changes.

Regarding claim 3, Sugahara discloses "identifying a scene change based on a percentage of intra coded blocks" (Sugahara: column 9, line 11- column 10, line 22; column 12, lines 44-65).

Regarding claim 4, note the examiners rejection for claim 1.

Regarding claim 5, Sugahara discloses "the threshold is about .65" (Sugahara: column 12, lines 44-65. While Sugahara fails to explicitly show the threshold being .65, Sugahara does disclose setting threshold values to judge a scene change. The examiner notes that it would have been obvious to set the threshold at a value indicating over half of the blocks, such as .65, in order to successfully determine a scene change).

Regarding claim 6, although not disclosed, it would have been obvious to identify the scene change based on the percentage of bidirectional blocks

(Official Notice). Doing so would have been obvious in order to better help identify a scene change by verifying a certain amount of blocks are different.

Regarding claim 7, note the examiners rejection for claims 1 and 6.

Regarding claim 8, Sugahara discloses "the threshold is about .7" (Sugahara: column 12, lines 44-65. While Sugahara fails to explicitly show the threshold being .7, Sugahara does disclose setting threshold values to judge a scene change. The examiner notes that it would have been obvious to set the threshold at a value indicating over half of the blocks, such as .7, in order to successfully determine a scene change).

Regarding claim 9, note the examiners rejection for claims 1 and 6.

Regarding claim 10, note the examiners rejection for claim 1.

Regarding claim 11, note the examiners rejection for claim 8.

Regarding claim 12, note the examiners rejections for claims 3, 6, and 9.

Regarding claim 13, Naito discloses "wherein encoding the image comprises increasing a number of bits used to encode the image" (Naito: column 3, lines 44-67).

Regarding claim 14, Naito discloses "encoding the image comprises changing a quantization rate used to quantize the image" (Naito: column 2, lines 60-67).

Regarding claim 16, although not disclosed, it would have been obvious to increase a counter indicating a number of bits allocated to images having the

same frame type (Official Notice). Doing so would have been obvious in order to help easily determine how many frames are of the same type.

Regarding claim 17, although not disclosed, it would have been obvious to store generated information in a side information file (Official Notice). Doing so would have been obvious in order to allow quick access to the information.

Regarding claims 18-31 and 33-34, note the examiners rejections for claims 1-14 and 16-17.

Regarding claims 35-48 and 50-51, note the examiners rejections for claims 1-14 and 16-17.

Regarding claim 52, note the examiners rejection for claim 1.

Regarding claims 53-55 and 57-58, note the examiners rejections for claims 1-14 and 16-17.

2. Claims 15, 32, 49, 56, and 59-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naito et al. (6690732), (hereinafter referred to as "Naito") in view of Sugahara (5404174), (hereinafter referred to as "Sugahara") in further view of Shapiro (5321776).

Regarding claims 15, 32, 49, and 56 note the examiners rejection for claim 1, and in addition, claims 15, 32, 49, and 56 differ from claim 1 in that claims 15, 32, 49, and 56 further require adjusting a counter for the number of bits available. Shapiro teaches that there is a need in the art for improved encoding performance (Shapiro: column 2, lines 14-20). To help alleviate this problem, Shapiro discloses "temporarily increasing a counter of the number of bits

available for encoding a remaining set of images" (Shapiro: column 8, lines 36-45). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the processing taught by Shapiro in order to obtain an apparatus that better helps increase encoding performance.

Regarding claims 59-64, note the examiners rejection for claims 1-17.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID CZEKAJ whose telephone number is (571)272-7327. The examiner can normally be reached on Mon-Thurs and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dave Czekaj/  
Primary Examiner, Art Unit 2621